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presented in two tables and two plates. He first determined that the variation in the level of origin between the sensory and motor nerves of the same segment did not exceed three mm. in any case. In making the investigation then the cord was exposed so as to show the posterior nerve roots and at the same time leave half the spinous process in place. Five of the specimens were adult males, one an adult female. The first table gives the upper and lower limit for each posterior root. The second table is condensed from the first to give the maximum variation, and the second plate graphically represents the results in the second table. The result shows great variability in the superficial origin of the spinal nerves when referred to the spinous processes.

*On nerve tracts degenerating secondarily to lesions of the cortex cerebri.*  
C. S. SHERRINGTON, M.A. (Preliminary communication). Journ. of Physiology, Vol. X, No. 5., July, 1889.

In 1884 Sherrington worked over some material put at his disposal by Prof. Goltz with a view to finding whether in dogs the location of the lesion in the cord could be connected with the portion of the "cord area" (*i. e.*, that region of the cerebral cortex the removal of any part of which causes a degeneration in the spinal cord) which was removed. He soon found that the appearance of the cord lesion was so dependent on the time elapsing between operation and autopsy that it was first necessary to study the variations due to this factor. In the present paper he returns to the original question of determining "to what extent there is in the pyramidal tracts a grouping of nerve fibers corresponding to the grouping of nerve cells in the cord area of the cerebral cortex." The experiments were mainly on monkeys (*Macacus*). In these animals the pyramidal tract was found to occupy three fourths of the transverse area of the crista a little above the pons; and to extend as low as the origin of the coccygeal nerve roots. It was further noticed in the cord of *Macacus* that from the level of the 2d lumbar nerve roots a considerable portion of the tract lies outside the direct cerebellar tract, thus separating the latter from the periphery of the lateral column. "After a cortical lesion of less than 30 square mm. extent the degeneration in the cord was found scattered over the whole transverse area of the tract." This furnishes a negative answer, therefore, to the initial question. The only grouping among these fibers passing from cortex to cord, was indicated by the fact that the more mesial and anterior cerebral lesions were followed by degeneration which (in the cervical cord) abutted on the direct cerebellar tract, whereas following removal of the more posterior and lateral cortical portions the degeneration about the cerebellar tract was less evident.

Further examination indicated that the "re-crossed" pyramidal fibers were well developed in the monkey in the cervical and lumbar enlargements. The "re-crossed" tracts are continuous with the fibers that have once crossed in the pyramidal decussation and are formed by fibers which pass back again to the side from which they came. According to Sherrington, they are probably due to branching of the crossed fibers. Fibers thus branching are designated as "geminal fibers," and their existence is supported by the fact that fibers are frequently found in pairs in the same stage of degeneration; that two axis cylinders are found in one sheath, and that the geminal fibers are most abundant in the crossed tract.

There are other results given, one of which is that "interhemispherical degenerations tend to scatter and do not pass between identical areas of the two hemispheres."

*Vergleichend-entwicklungsgeschichtliche und anatomische Studien im Bereiche des Centralnervensystems. II. Ueber die Fortsetzung der hinteren Rückenmarkswurzeln zum Gehirn.* Dr. L. EDINGER. Anatomischer Anzeiger, No. 4, 1889. Rev. in Neurolog. Centralbl., by P. Kronthal.

As the result of his own investigations on the spinal cord of the frog, Edinger has determined that voluminous fiber bundles arise from the posterior cornua and pass ventrad, crossing with those of the opposite side, both ventrad and dorsad of the central canal. After decussation these fibers pass cephalad for the most part in the anterior and to a small extent in the lateral columns. This crossing occurs in mammals also, but in man has escaped observation because it is inconspicuous in frontal sections. The path of the sensory nerves is, therefore: peripheral end organ, nerve, cell of the spinal ganglion, posterior root, union with a second nucleus, decussation, continuation to the lemniscus, whither the antero-lateral columns pass. The view that all the sensory fibers do not run in the posterior columns is supported by observations in tabes as well as by physiological experiments.

*Progressive neurotische Muskelatrophie.* Dr. J. HOFFMANN. XIV Wanderversammlung südwestdeutscher Neurologen und Irrenärzte, Mai, 1889. Abstract in Neurolog. Centralbl., No. 13, 1889, by Dr. L. Laquer.

To the disease described by him under this name Hoffmann adds some anatomical facts. He cites several cases where the anatomical changes have been recorded and concludes that the following are made out: centripetal degeneration of the motor and sensory peripheral nerves, similar degeneration of the anterior and posterior spinal nerve roots, degeneration of the posterior columns in the lumbar region—from there cephalad only the columns of Goll are involved—, atrophy and disappearance of the multipolar ganglion cells of the anterior conua, with changes in the muscles as elsewhere described. Neither amyotrophic lateral sclerosis nor the various forms of poliomyelitis anterior nor Friedrich's disease (hereditary ataxia) nor ependymal sclerosis nor multiple neuritis produce such changes. From the lesion of tabes dorsalis it is distinguished by the immunity of the columns of Burdach above the lumbar region. (In a case quoted from Gombault and Mallet it is stated that the degeneration of all the fibers connected with the posterior root ganglion takes place while the ganglion cells remain normal! REV.)

*Anatomische Untersuchung eines Falles von amyotrophischer Lateral-sklerosis.* Dr. OTTO DORNBLÜTH. Originalmittheilung, Neurolog. Centralbl. No. 13, 1889.

This interesting case is given with some detail. At the end of the article there is a summary from which we take the following:

In a woman of 58 years with hereditary taint, and who had suffered from folie circulaire for 4 years, and exhibited increased muscular irritability for some time, there suddenly appeared paralysis of the